

WHAT IS CLAIMED IS:

1. A disc-shaped magnetic recording medium on which magnetic tracks for writing and reading magnetic information are arranged substantially concentrically,

5 wherein, assuming that a saturation magnetic field in a width direction extending in a radial direction from the center of the disc-shaped magnetic recording medium is  $H_R$ , and a saturation magnetic field in a circumferential direction perpendicular to said radial direction is  $H_C$ ,

10  $H_R/H_C$  is set to a value within a range of 0.5 to 0.95 in each of said magnetic tracks, and magnetization information is recorded in the width direction of each magnetic track, and

15 wherein, in gap portions between the magnetic tracks located adjacent to each other in said radial direction, discrete portions for magnetically separating the adjacent magnetic tracks are formed, respectively.

2. The magnetic recording medium according to claim 20 1, wherein a relationship between a track pitch ( $T_P$ ) of each magnetic track and a width ( $T_W$ ) thereof satisfies  $0.8 \geq (T_W/T_P) \geq 0.4$ .

3. The magnetic recording medium according to claim 25 1, wherein a relationship between a track pitch ( $T_P$ ) of each magnetic track and a width ( $T_W$ ) thereof satisfies  $0.8 \geq (T_W/T_P) \geq 0.5$ .

4. The magnetic recording medium according to claim 1, wherein the value of  $H_R/H_C$  falls within a range of 0.6 to 0.9.

5

5. The magnetic recording medium according to claim 1, wherein the value of  $H_R/H_C$  falls within a range of 0.7 to 0.8.

10

6. The magnetic recording medium according to claim 1, wherein a thickness of a magnetic layer of each magnetic track falls within a range of 5 to 100nm.

15

7. The magnetic recording medium according to claim 1, wherein a thickness of a magnetic layer of each magnetic track falls within a range of 50 to 100nm.

20

8. The magnetic recording medium according to claim 1, wherein a coercivity of a magnetic layer of each magnetic track falls within a range of 300 to 40000e.

25

9. The magnetic recording medium according to claim 1, wherein a coercivity of a magnetic layer of each magnetic track falls within a range of 300 to 10000e.

10. A magnetic recording and reproducing system comprising a magnetic recording medium, and a magnetic head

for writing or reading information relative to said magnetic recording medium,

wherein said magnetic recording medium is a disc-shaped magnetic recording medium on which magnetic tracks for writing and reading magnetic information are arranged substantially concentrically,

wherein, assuming that a saturation magnetic field in a width direction extending in a radial direction from the center of the disc-shaped magnetic recording medium is  $H_R$ , and a saturation magnetic field in a circumferential direction perpendicular to said radial direction is  $H_C$ ,  $H_R/H_C$  is set to a value within a range of 0.5 to 0.95 in each of said magnetic tracks, and magnetization information is recorded in the width direction of each magnetic track,

wherein, in gap portions between the magnetic tracks located adjacent to each other in said radial direction, discrete portions for magnetically separating the adjacent magnetic tracks are formed, respectively,

wherein said magnetic head comprises a recording head portion having a recording gap for recording the magnetization information in the width direction of the magnetic track, and a reproducing head portion having a reproducing gap for taking in the magnetization information recorded in the width direction of the magnetic track,

wherein a relationship between a length ( $G_1$ ) of the recording gap of said magnetic head and a track width ( $T_w$ ) of said magnetic recording medium satisfies

1.5 $\geq$ (G1/T<sub>w</sub>) $\geq$ 0.9, and

wherein a relationship between a length (G2) of the reproducing gap of said magnetic head and the track width (T<sub>w</sub>) of said magnetic recording medium satisfies

5 1.2 $\geq$ (G2/T<sub>w</sub>) $\geq$ 0.75.

11. The magnetic recording and reproducing system according to claim 10, wherein a relationship between a track pitch (T<sub>p</sub>) of each magnetic track and the track width (T<sub>w</sub>) thereof satisfies 0.8 $\geq$ (T<sub>w</sub>/T<sub>p</sub>) $\geq$ 0.4.

10

12. The magnetic recording and reproducing system according to claim 10, wherein a relationship between a track pitch (T<sub>p</sub>) of each magnetic track and the track width (T<sub>w</sub>) thereof satisfies 0.8 $\geq$ (T<sub>w</sub>/T<sub>p</sub>) $\geq$ 0.5.

15

13. The magnetic recording and reproducing system according to claim 10, wherein the relationship between the length (G1) of the recording gap of said magnetic head and the track width (T<sub>w</sub>) of said magnetic recording medium satisfies 1.2 $\geq$ (G1/T<sub>w</sub>) $\geq$ 0.95.

20

14. The magnetic recording and reproducing system according to claim 10, wherein the relationship between the length (G2) of the reproducing gap of said magnetic head and the track width (T<sub>w</sub>) of said magnetic recording medium satisfies 1.1 $\geq$ (G2/T<sub>w</sub>) $\geq$ 0.9.

25

15. The magnetic recording and reproducing system according to claim 10, wherein the value of  $H_R/H_C$  falls within a range of 0.6 to 0.9.

5

16. The magnetic recording and reproducing system according to claim 10, wherein the value of  $H_R/H_C$  falls within a range of 0.7 to 0.8.

10 17. The magnetic recording and reproducing system according to claim 10, wherein a thickness of a magnetic layer of each magnetic track falls within a range of 5 to 100nm.

15 18. The magnetic recording and reproducing system according to claim 10, wherein a thickness of a magnetic layer of each magnetic track falls within a range of 50 to 100nm.

20 19. The magnetic recording and reproducing system according to claim 10, wherein a coercivity of a magnetic layer of each magnetic track falls within a range of 300 to 40000e.

25 20. The magnetic recording and reproducing system according to claim 10, wherein a coercivity of a magnetic layer of each magnetic track falls within a range of 300 to

10000e.